UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,715	10/03/2003	William C. Kimbrell	2992B	9866

7590 06/15/2005

Milliken & Company
P. O. Box 1926
Spartanburg, SC 29304

EXAMINER	
KUMAR, PREETI	
ART UNIT	PAPER NUMBER
1751	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

15L

Office Action Summary	Application No.	Applicant(s)
	10/678,715	KIMBRELL, WILLIAM C.
	Examiner	**Art Unit**
	Preeti Kumar	1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *44-54,60-70 and 76-86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *44-54,60-70 and 76-86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Non-Final Rejection After RCE

1. Claims 44-54, 60-70 and 76-86 are pending.

2. Claims 44, 60, and 76 are independent.

Response to Amendment

3. The objection to claims 44, 60, 76 is withdrawn in light of applicant's amendment to the claims.

4. The rejection of claims 44-48,50-54, 60-64, 66-70, 76-80 and 82-86 under 35 U.S.C. 102(b) as being anticipated by Farmer (US 4,103,051) is withdrawn in light of applicants arguments filed April 1, 2005 stating that the amines taught by the prior art in table 1 are not branched chain amines wherein the substituent is branched.

5. The rejection of claims 49, 65, and 81 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Farmer (US 4,103,051) is withdrawn in light of applicants arguments filed April 1, 2005.

Response to Arguments

6. Applicant's arguments filed April 1, 2005 have been fully considered but are rendered moot in light of the new grounds of rejection below.

New Grounds of Rejection

7. Claims 44-54, 60-70 and 76-86 are rejected under 35 U.S.C. 103(a) as being obvious over Farmer (US 4,103,051) in view of Krogh et al. (US 6,169,064).

Farmer teaches a method for reducing the pilling tendency of textiles including polyester fibers which comprises subjecting the textile to an aliphatic amine having at least 10 carbon atoms, the concentration of the amine being between about 0.5% and 10% based on the dry weight of the textile. See abstract.

Specifically regarding the claimed amine, Farmer teaches that the aliphatic amine advantageously, contains between about 10 and 25 carbon atoms and preferably between about 12 and 21 carbon atoms. Fatty amines are preferred, particularly diamines. The amine generally is dissolved or suspended in water or an organic solvent prior to the treatment of the textile. The proportion of the amine based on the dry weight of the textile is between about 0.5% and 10% and preferably between about 1% and 5%. In order to provide the before mentioned amount of amine on the textile, the treating admixture will generally contain from about 0.01 to about 20 weight percent of the amine. The textile may be treated with the amine utilizing conventional application techniques such as padding, dipping, spraying, etc. Also, exhaustion techniques may be employed such as by adding the amine to a dye bath in a dyeing cycle.

Specifically regarding the claimed heating and cooling and rinsing, in example II, Farmer illustrates the use of a propanediamine to treat a 100% polyester yarn. See col.3. Farmer teaches that it is advantageous that the treatment be performed at a temperature between about 200° and 400° F. for a period between about 1 and 60 minutes. Other chemicals may be applied to the textile simultaneously or sequentially of the amine. For example, chemicals may be employed which enhance the physical characteristics of the textile such as durable press reactants, e.g., textile resins or vinyl monomers with dual functionality and catalysts therefor, as well as soil release polymers, hand builders, softeners, emulsifying or wetting agents and the like. See col.2, ln.20-55. In table I in column 3, Farmer demonstrates several 1,3 propanediamines and n-dodecylamines under standardized pilling tests of the compounds on fabric samples resulted in having no pilling.

Farmer does not teach applying branch chain amine selected from the group consisting of isodecyloxypropyl-1,3-diaminopropane, isododecyloxypropyl-1,3-diaminopropane and isotridecyloxypropyl-1,3-diaminopropane as recited by the instant claims.

Krogh et al. teach surfactant compositions wherein the surfactant is robust and capable of imparting surfactant properties to a wide range of compositions. Suitable ether amine or diamine precursors for use in the surfactant include, without limitation, PA-7 (isopropyl-oxypropyl amine), PA-10 (isohexyloxypropyl amine), PA-1214 (a blended octyl/decyloxypropyl amine), PA-14 (decyloxypropyl amine), PA-17 (isotridecyloxypropyl amine) and DA-17 (isotridecyloxypropyl-1,3 diamino propane). See col.4,ln.25-35.

Specifically in example 9 Krogh et al. teach a laundry detergent wherein the surfactant is heated to form a blend of amine ether acid salt surfactant and alkanolamide. This blend has a synergistic cleaning effect useful in removing soils from fabric. The surfactant has excellent liquidity. The liquidity is imparted by the ether linkages on the acids and, where applicable, on the amines. The potential for branching of the alkyl groups on the acids and amines further contributes to the excellent liquidity of the surfactant. See example 9, col.11,ln.40-col.12 where Krogh et al. illustrate that amine ether acid salts, and alkanolamides formed after heating the salts, form a synergistic detergent blend which is effective in removing soil from fabric.

Specifically, Krogh et al. teach that the surfactant was prepared by first treating monoethanolamine with sodium borohydride at 70.degree. C. for one hour. This solution was added to an equimolar amount of isodecyloxypropionic acid over a period of 15 minutes. The amine ether acid mixture was then heated to 155.degree. C. for approximately 1.5 hours. The end products of this reaction are approximately 38% monoethanolamine isodecyloxypropionic acid salt surfactant and 62% alkanolamide. Different surfactant/alkanolamide ratios result from different heating durations. For example, a 60% monoethanolamine isodecyloxypropionic acid salt surfactant and 40% alkanolamide blend composition results from heating the surfactant for approximately 30 minutes, while a 10% monoethanolamine isodecyloxypropionic acid salt surfactant and 90% alkanolamide composition blend results from heating the composition approximately 4 hours. Five detergent compositions were prepared using 96.6% water and 0.40% of the monoethanolamine isodecyloxypropionic acid salt surfactant/alkanolamide blend. Krogh et al. teach that over 45% of the soil was removed by the detergent composition including 38% monoethanolamine isodecyloxypropionic acid salt surfactant and 62% alkanolamide. The optimal exemplary detergent composition was found to be an efficacious laundry detergent.

It would have been nonetheless obvious to one of ordinary skill in the art, at the time the invention was made, to modify the diaminopropane taught by Farmer, to arrive at a process for using the recited branch chain amine, because Krogh et al. teach that the isodecylopropylamine surfactant prepared from ether amine or diamine precursors including (isopropyl-oxypropyl amine), (isohexyloxypropyl amine), (decyloxypropyl amine), (isotridecyloxypropyl amine) and (isotridecyloxypropyl-1,3 diamino propane) results in a superior surfactant that is an efficacious laundry detergent with favorable liquidity and dispersion properties. See example 9 and col.2,ln.30-40. Furthermore, one of ordinary skill in the art would have been motivated to combine the teachings of Krogh et al. with that of Farmer since Farmer teaches a process for chemically modifying a hydrolizable polymer-containing textile article to improve resistance to pilling by applying a diaminopropane in the analogous art of laundry aids in general.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 571-272-1320. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Preeti Kumar
Examiner
Art Unit 1751

PK

YOGENDRA N. GUPTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700